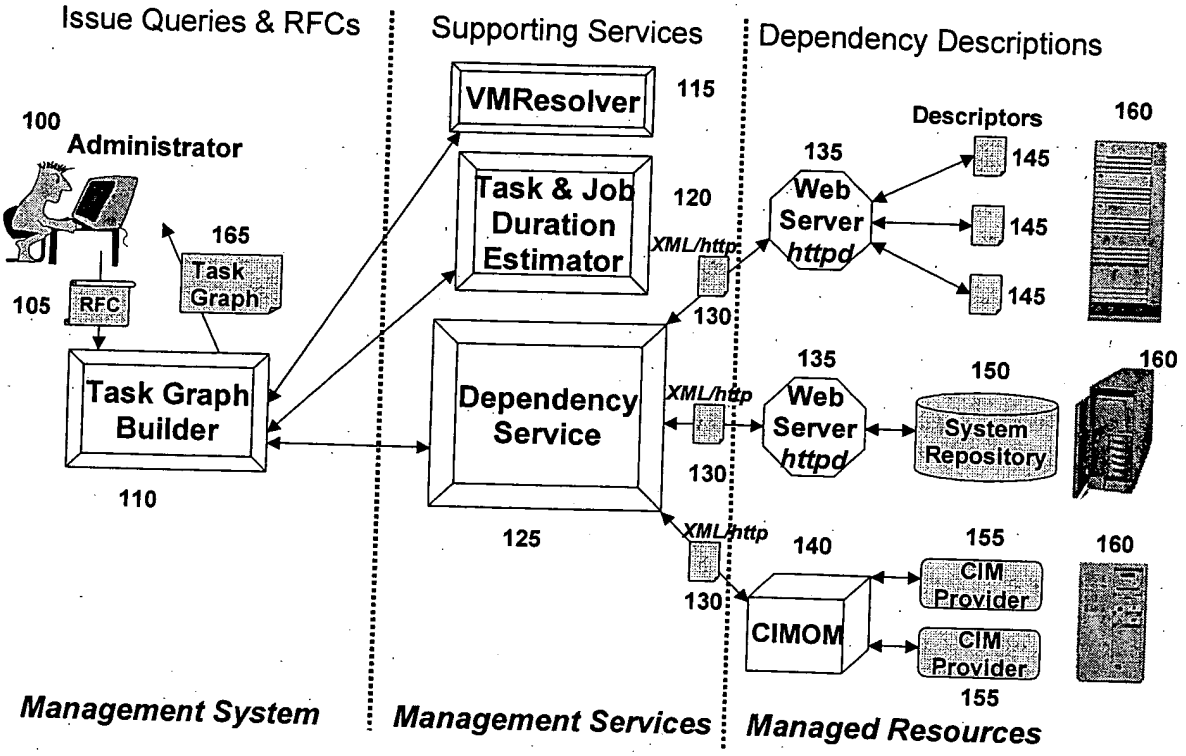
Issue Queries & RFCs
Supporting Services
Dependency Descriptions
100
Administrator
105
RFC
165
Task Graph
Task Graph Builder
110
VMResolver
115
Task & Job Duration Estimator
120
Dependency Service
125
XML/http
130
Web Server httpd
135
Descriptors
145
145
145
160
System Repository
150
160
CIMOM
140
CIM Provider
155
CIM Provider
155
160
Management System
Management Services
Managed Resources

Fig. 1

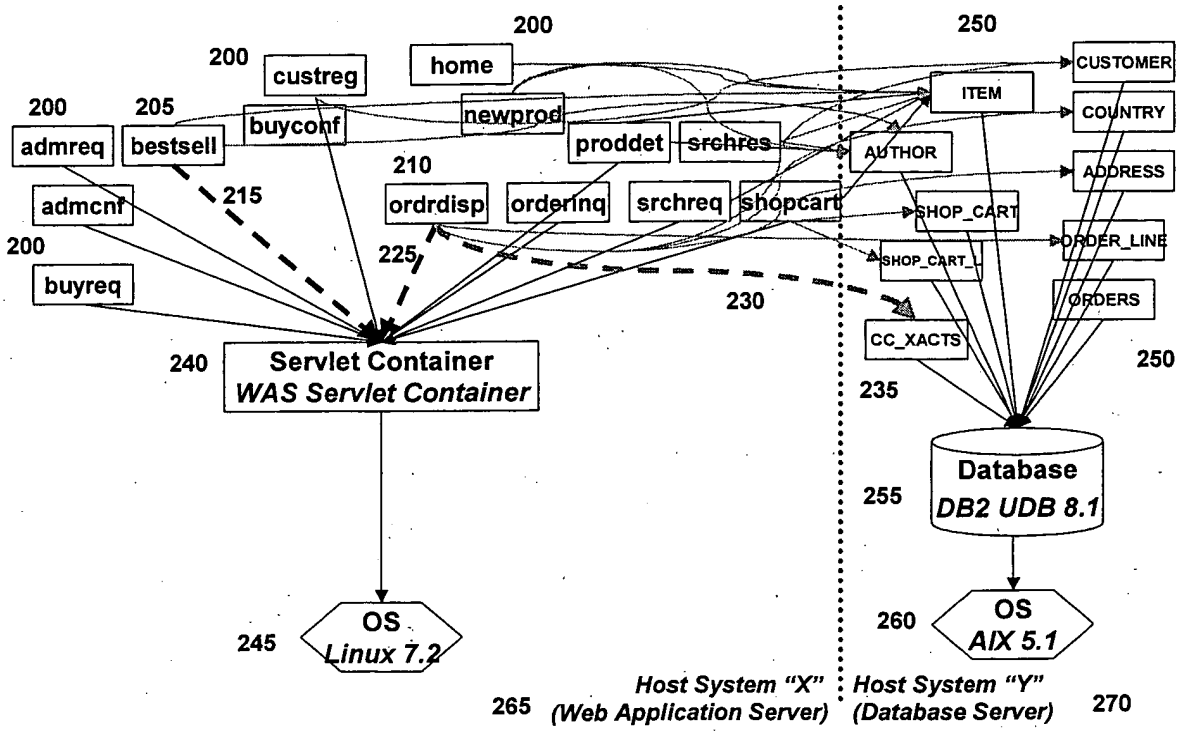
200
250
200
custreg
home
CUSTOMER
200
205
buyconf
newprod
ITEM
COUNTRY
admreq
bestsell
proddet
srchres
AUTHOR
ADDRESS
210
admcnf
215
ordrdisp
ordering
srchreq
shopcart
SHOP_CART
200
225
ORDER_LINE
SHOP_CART_L
buyreq
230
ORDERS
CC_XACTS
240
Servlet Container
WAS Servlet Container
250
235
Database
DB2 UDB 8.1
255
OS
Linux 7.2
245
OS
AIX 5.1
260
Host System "X"
(Web Application Server)
Host System "Y"
(Database Server)
265
270

Fig. 2

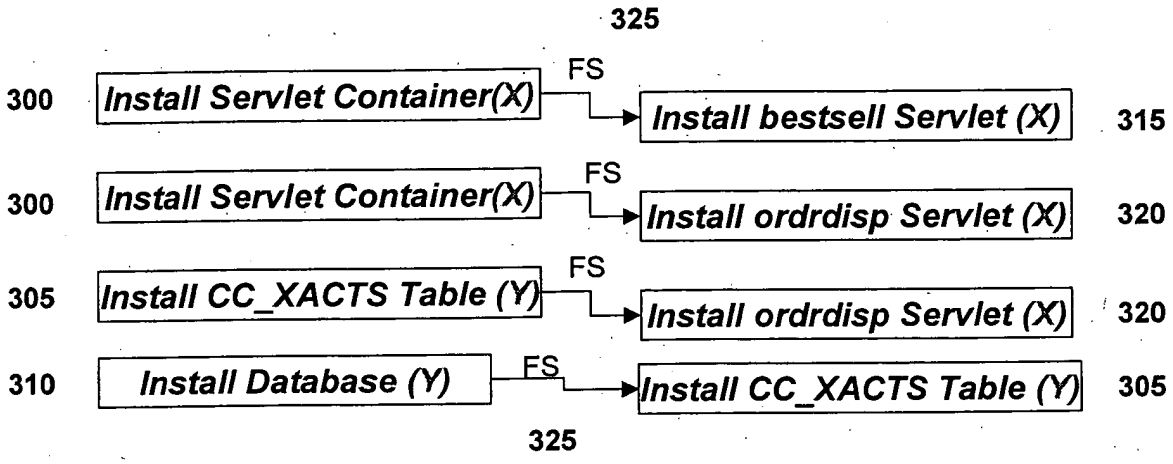
325
300
Install Servlet Container(X)
FS
Install bestsell Servlet (X)
315
300
Install Servlet Container(X)
FS
Install ordrdisp Servlet (X)
320
305
Install CC_XACTS Table (Y)
FS
Install ordrdisp Servlet (X)
320
310
Install Database (Y)
FS
Install CC_XACTS Table (Y)
305
325

Fig. 3

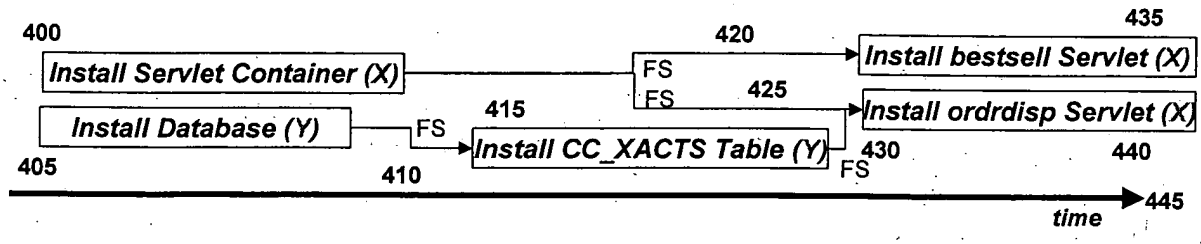
400
Install Servlet Container (X)
Install Database (Y)
405
FS
410
415
Install CC_XACTS Table (Y)
420
FS
FS
425
Install bestsell Servlet (X)
Install ordrdisp Servlet (X)
430
FS
435
440
445
time

Fig. 4

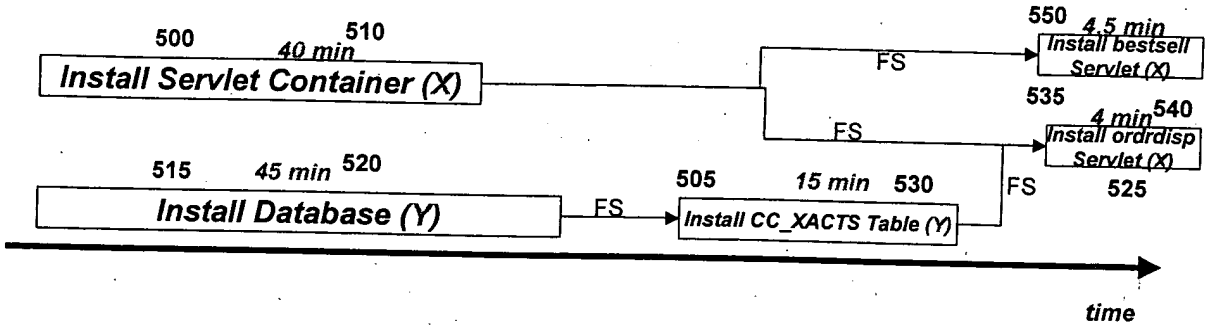
500
40 min
510
Install Servlet Container (X)
550
4.5 min
Install bestsell Servlet (X)
FS
535
4 min
540
Install ordrdisp Servlet (X)
FS
515
45 min
520
Install Database (Y)
FS
505
15 min
530
Install CC_XACTS Table (Y)
FS
525
time

Fig. 5

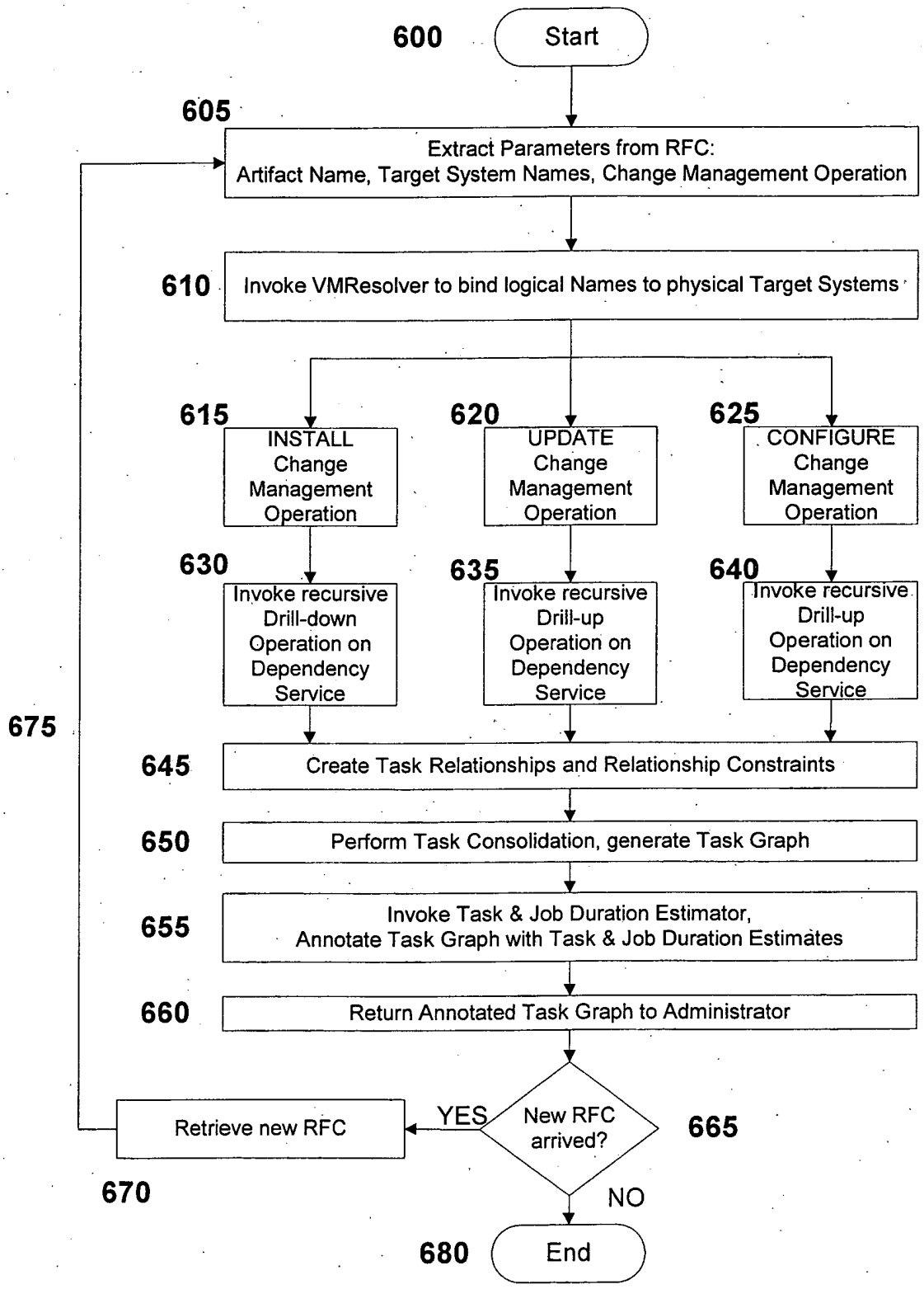
600
Start
605
Extract Parameters from RFC:
Artifact Name, Target System Names, Change Management Operation
610
Invoke VMResolver to bind logical Names to physical Target Systems
615
INSTALL Change Management Operation
620
UPDATE Change Management Operation
625
CONFIGURE Change Management Operation
630
Invoke recursive Drill-down Operation on Dependency Service
635
Invoke recursive Drill-up Operation on Dependency Service
640
Invoke recursive Drill-up Operation on Dependency Service
675
645
Create Task Relationships and Relationship Constraints
650
Perform Task Consolidation, generate Task Graph
655
Invoke Task & Job Duration Estimator,
Annotate Task Graph with Task & Job Duration Estimates
660
Return Annotated Task Graph to Administrator
665
New RFC arrived?
YES
Retrieve new RFC
670
NO
680
End

Fig. 6

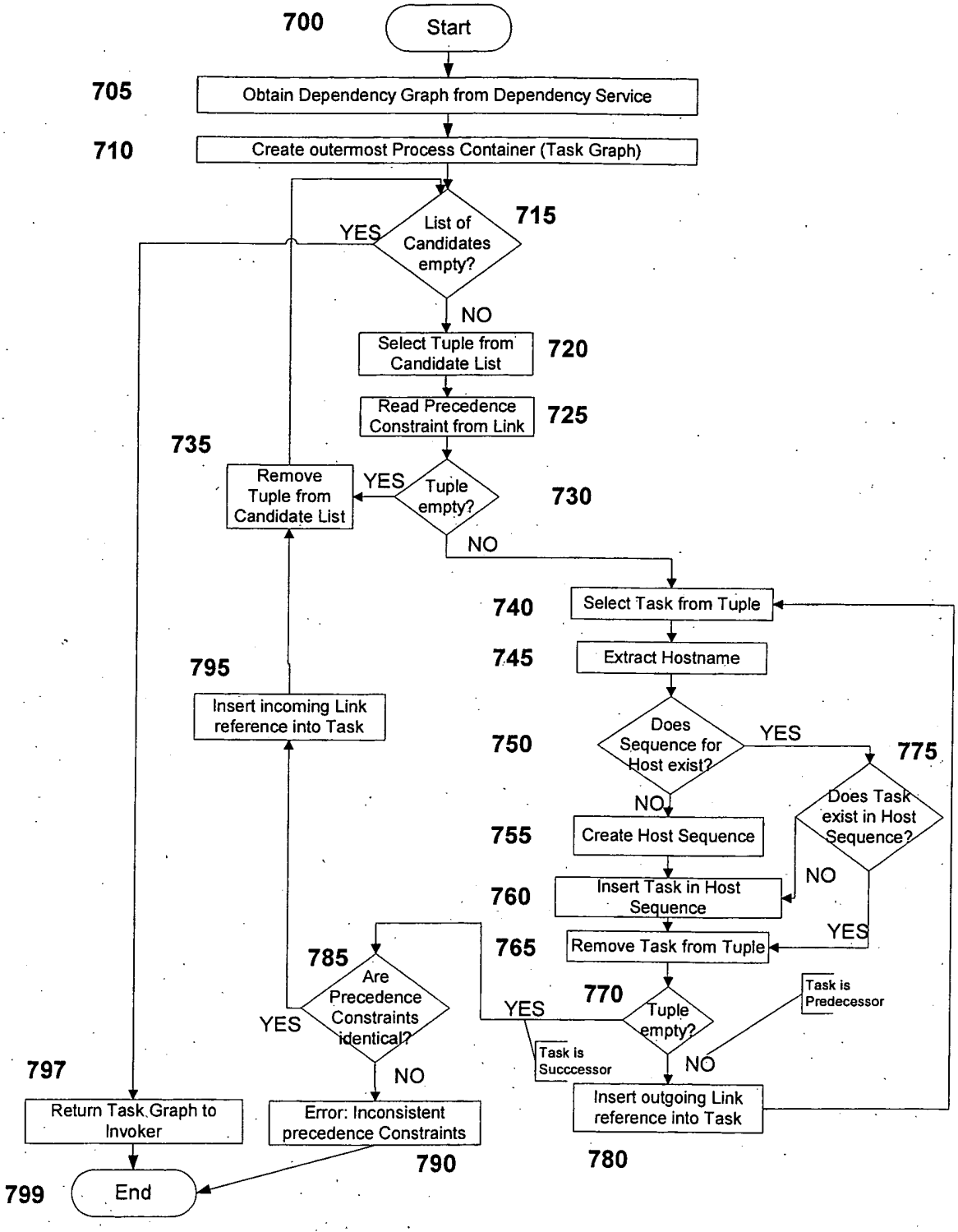
700
Start
705
Obtain Dependency Graph from Dependency Service
710
Create outermost Process Container (Task Graph)
715
List of Candidates empty?
YES
NO
720
Select Tuple from Candidate List
725
Read Precedence Constraint from Link
730
Tuple empty?
YES
735
Remove Tuple from Candidate List
740
Select Task from Tuple
745
Extract Hostname
750
Does Sequence for Host exist?
YES
NO
775
Does Task exist in Host Sequence?
NO
YES
755
Create Host Sequence
760
Insert Task in Host Sequence
765
Remove Task from Tuple
770
Tuple empty?
YES
NO
Task is Predecessor
Task is Succcessor
780
Insert outgoing Link reference into Task
785
Are Precedence Constraints identical?
YES
NO
790
Error: Inconsistent precedence Constraints
795
Insert incoming Link reference into Task
797
Return Task Graph to Invoker
799
End

Fig. 7

APIs	Functional Description
`getTaskGraphForInstall()`	Task Graph for the Install change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph
`getTaskGraphForUpdate()`	Task Graph for the Update change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph
`getTaskGraphForUninstall()`	Task Graph for the Uninstall change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph
`getTaskGraphForRollback()`	Task Graph for the Rollback change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph
`getTaskGraphForInitialConfigure()`	Task Graph for the InitialConfigure change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph
`getTaskGraphForConfigure()`	Task Graph for the Configure change management operation is built. The activities in a workflow (process, flow, sequence) are created and populated with values from the Dependency Graph

Fig. 8